

## **CLAIMS**

What is claimed is:

1. An arrangement for coupling a SCP (Signaling Control Point) to signaling transfer point (STP) nodes of a SS7 network, comprising:  
  
an aggregated signaling gateway arrangement (ASGA) including at least a first signaling gateway and a second signaling gateway, said first signaling gateway being coupled between said SCP and a first STP node of said SS7 network, said second signaling gateway being coupled between said SCP and a second STP node of said SS7 network, said first signaling gateway and said second gateway being associated with a single SS7 point code.
2. The arrangement of claim 1 wherein said first signaling gateway and said second signaling gateway communicate with said SCP using SS7-over-IP
3. The arrangement of claim 2 wherein said first signaling gateway communicates with said first STP node using HSL (High Speed Link).
4. The arrangement of claim 3 wherein all communication links employed for transmitting SS7 messages between said first STP node and said SCP traverse said first signaling gateway.
5. The arrangement of claim 2 wherein said ASGA is capable of providing 32 HSL links of bandwidth into said SS7 network.
6. The arrangement of claim 2 wherein all communication links employed for transmitting SS7 messages between said first STP node and said SCP traverse said first signaling gateway.
7. The arrangement of claim 1 wherein each SS7 link between said SCP and said ASGA is mapped onto a SCTP (Stream Control Transport Protocol) connection.

8. A communication network, comprising:

a SS7 network comprising a plurality of interconnected STP (Signaling Transfer Point) nodes;

an application server; and

an aggregated signaling gateway arrangement (ASGA) coupled between said application server and said SS7 network, said ASGA comprising at least a first signaling gateway and a second signaling gateway, said first signaling gateway being configured to transmit and receive SS7 messages with a first STP node of said SS7 network, said second signaling gateway being configured to transmit and receive SS7 messages with a second STP node of said SS7 network, said first signaling gateway and said second signaling gateway communicating with said application server using SS7-over-IP.

9. The communication network of claim 8, wherein said first signaling gateway and said second gateway are associated with a single SS7 point code.

10. The communication network of claim 9, wherein said ASGA is capable of providing 32 HSL links of bandwidth into said SS7 network.

11. The communication network of claim 10, wherein said first signaling gateway communicates with said first STP node using HSL (High Speed Link).

12. The communication network of claim 11, wherein all communication links employed for transmitting SS7 messages between said first STP node and said application server traverse said first signaling gateway.

13. The communication network of claim 9, wherein each SS7 link between said application server and said ASGA is mapped onto a SCTP (Stream Control Transport Protocol) connection.

14. The communication network of claim 9 wherein said second signaling gateway communicates with said second STP node using 56 Kbits/second SS7 links.
15. A method for transmitting SS7 messages between a SCP (Signaling Control Point) and a SS7 network, said SS7 network comprising a plurality of interconnected STP (Signaling Transfer Point) nodes, comprising:
- providing an aggregated signaling gateway arrangement (ASGA), said ASGA being coupled between said SCP and said SS7 network and comprising at least a first signaling gateway and a second signaling gateway, said first signaling gateway being coupled with a first STP node of said SS7 network, said second signaling gateway being coupled with a second STP node of said SS7 network; and
  - employing SS7-over-IP to communicate between said SCP and said first signaling gateway and said second signaling gateway.
16. The method of claim 15 wherein said first signaling gateway and said second gateway are associated with a single SS7 point code.
17. The method of claim 16 wherein said ASGA is capable of providing a greater bandwidth throughput into said SS7 network than a maximum bandwidth throughput into said SS7 network of either one of said first signaling gateway and said second signaling gateway.
18. The method of claim 17 wherein said first signaling gateway communicates with said first STP node using HSL (High Speed Link).
19. The method of claim 18 wherein all communication links employed for transmitting SS7 messages between said first STP node and said SCP traverse said first signaling gateway.
20. The method of claim 16 wherein each SS7 link between said SCP and said ASGA is mapped onto a SCTP (Stream Control Transport Protocol) connection.

21. The method of claim 16 wherein said first signaling gateway transmits SS7 traffic to said first STP node using only HSL links.

22. The method of claim 21 wherein said second signaling gateway transmits SS7 traffic to said second STP node using only 56 Kbits/second links.

23. The method of claim 22 wherein said first signaling gateway is coupled to said first STP node via at least one active HSL link and at least one inactive 56Kbits/second link.